

## CLAIMS

What is claimed is:

1. A compression method for modulating binary information from a binary information stream onto a carrier comprising the steps of:

generating a carrier at a select carrier frequency such that said carrier has a waveform with a continuous sequence of wavelets with similar amplitudes;

    said wavelets being defined by a 360 degree cycle between crossover positions of said carrier waveform;

    said crossover positions representing a substantially zero energy level;

    grouping said wavelets into wavelet groups containing two or more wavelets;

    receiving said information stream as a binary data sequence of first and second binary states;

    grouping said binary data sequence of first and second binary states into binary groups of two or more first and second binary states;

    correlating one of each said wavelets in said wavelet groups with one of each possible binary values of each said binary groups; and,

    modulating said carrier in accordance with said binary data sequence by altering the amplitude or frequency of the one of each said wavelets in said wavelet groups corresponding to one of each said binary values of said binary groups resulting in a compressed binary modulated carrier.

2. The method of claim 1 wherein:

    the modulating of said carrier is carried out by altering the amplitude or frequency of said wavelets while minimizing sideband distortions of said carrier.

3. The method of claim 1 wherein:

    the generation of said carrier is accomplished by a local oscillator having an oscillator output at a select carrier frequency.

4. The method of claim 1 comprising the additional step of:

reducing of harmonics produced from modulating said carrier by filtering said compressed binary modulated carrier.

5. The method of claim 1 comprising the additional step of:  
broadcasting said compressed binary modulated carrier.
6. The method of claim 5 wherein:  
broadcasting said compressed binary modulated carrier is accomplished using a Time Division Multiple Access system.
7. The method of claim 5 wherein:  
broadcasting said compressed binary modulated carrier is accomplished using a Frequency Division Multiple Access system.
8. A method for demodulating compressed binary information that was derived from a binary information stream composed of a binary data sequence of first and second binary states that was modulated onto a carrier which has a waveform with a continuous sequence of wavelets with similar amplitudes defined by a 360 degree cycle between crossover positions representing a substantially zero energy level in which the carrier has been modulated in accordance with said binary data sequence by grouping said wavelets into wavelet groups containing two or more wavelets; receiving said information stream as a binary data sequence of first and second binary states; grouping said binary data sequence of first and second binary states into binary groups of two or more first and second binary states; correlating one of each said wavelets in said wavelet group with one of each possible binary values of each said binary groups; and modulating said carrier in accordance with said binary data sequence by altering the amplitude or frequency of the one of each said wavelets in said wavelet groups corresponding to one of each said binary values of said binary groups resulting in a compressed binary modulated carrier which was broadcasted comprising the steps of:  
receiving said broadcasted compressed binary modulated carrier;

demodulating said compressed binary modulated carrier by detecting the respective amplitudes or frequencies of said wavelets to identify said altered wavelets in said wavelet groups and correlating to said binary values of said binary groups ; and,

reconstructing said binary data sequence from said binary groups resulting in regeneration of said information stream.

9. The method of claim 8 wherein:

broadcasting and receiving said compressed binary modulated carrier is accomplished using a Time Division Multiple Access system.

10. The method of claim 8 wherein:

broadcasting and receiving said compressed binary modulated carrier is accomplished using a Frequency Division Multiple Access system.

11. A method for transmitting compressed binary information from a binary information stream over a carrier, receiving the compressed binary modulated carrier, and converting the transmitted binary information back into an information stream comprising the steps of:

generating a carrier at a select carrier frequency such that carrier has a waveform with a continuous sequence of wavelets with similar amplitudes;

said wavelets being defined by a 360 degree cycle between crossover positions of said radio frequency carrier waveform;

said crossover positions representing a substantially zero energy level;

grouping said wavelets into wavelet groups containing two or more wavelets;

receiving said information stream as a binary data sequence of first and second binary states;

grouping said binary data sequence of first and second binary states into binary groups of two or more first and second binary states;

correlating one of each said wavelets in said wavelet group with one of each possible binary values of each said binary groups; and,

modulating said carrier in accordance with said binary data sequence by altering the amplitude or frequency of the one of each said wavelets in said wavelet groups

corresponding to one of each said binary values of said binary groups resulting in a compressed binary modulated carrier;

broadcasting said compressed binary modulated carrier;

receiving said compressed binary modulated carrier;

demodulating said compressed binary modulated carrier by detecting the respective amplitudes or frequencies of said wavelets to identify said altered wavelets in said wavelet groups and correlating to said binary values of said binary groups ; and,

reconstructing said binary data sequence from said binary groups resulting in regeneration of said information stream.

12. The method of claim 11 wherein:

the modulating of carrier is carried out by altering the frequency or amplitude of said wavelets while minimizing sideband distortions of said carrier.

13. The method of claim 11 wherein:

the generation of said carrier is accomplished by a local oscillator having an oscillator output at a select carrier frequency.

14. The method of claim 11 comprising the additional step of:

reducing of harmonics produced by modulating said carrier by filtering said carrier.

15. The method of claim 11 wherein:

broadcasting and receiving said compressed binary modulated carrier is accomplished using a Time Division Multiple Access system.

16. The method of claim 11 wherein:

broadcasting and receiving said compressed binary modulated carrier is accomplished using a Frequency Division Multiple Access system.